
Targeted chromatin ligation, a robust epigenetic profiling technique for small cell numbers.

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Public Summary:

Scientific Abstract:

The complexity and inefficiency of chromatin immunoprecipitation strategies restrict their sensitivity and application when examining rare cell populations. We developed a new technique that replaces immunoprecipitation with a simplified chromatin fragmentation and proximity ligation step that eliminates bead purification and washing steps. We present a simple single tube proximity ligation technique, targeted chromatin ligation, that captures histone modification patterns with only 200 cells. Our technique eliminates loss of material and sensitivity due to multiple inefficient steps, while simplifying the workflow to enhance sensitivity and create the potential for novel applications.

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